

of which communicates with the surrounding sea-water only by a single aperture, the mouth, placed opposite to the point of attachment. *In this early young state*, when it constitutes a simple cup-shaped body with solid walls and a simple aperture, *the young sponge is not essentially different from a young coral* which is still in the same early period of ontogenesis. But just as the common freshwater Polype (*Hydra*) presents persistently throughout life, in its simple sac-like body-cavity, a similar cœlenteric primitive state to that which all corals pass through in their youth, so does this just-mentioned simplest calcareous sponge (*Prosycum*) remain throughout its life, until perfect maturity, in the same cœlenteric primitive state which the other calcareous sponges have to pass through rapidly in their earliest youth. Considering, now, that extremely important and intimate *causal connexion* which everywhere exists between *ontogeny* and *phylogeny*,—considering the morphogenetic fundamental law, that the *ontogeny* (that is to say, the individual developmental history of the organism) constitutes a short and rapid (causally conditioned by the laws of inheritance and adaptation) repetition of its *phylogeny*, that is, of the palæontological developmental history of the ancestors of its entire stock,—considering this high phylogenetic signification of all ontogenetic states, we must, from these simple facts, from this ontogenetic concordance between the young states of the sponges and corals, draw the extremely important phylogenetic conclusion, that *the sponges and corals are near blood-relations*, whose origin is derived from one and the same original common stock-form. This unknown stock-form, of whose special structure no fossil remains are preserved to us from the archolithic period of the earth's history, but as to whose former existence we may conclude with perfect certainty from the adduced facts, nay, of whose general form we have even still an approximate picture in *Prosycum simplicissimum*!, must have possessed a simple cup-shaped body, with a single orifice placed opposite to its point of attachment. We will give this the name of the primitive sac, *PROTASCUS*. From this hypothetical *Protascus* probably originated, as two divergent branchlets, *Prosycum* (the stock-form of the Calci-spongiæ) and *Procorallum* (the stock-form of the corals).

[To be continued.]

II.—*On the Species of the Genus Phillydrus found in the Atlantic Islands.* By D. SHARP, M.B.

WHEN engaged last spring in making an examination of our British *Phillydri*, and comparing them with the few speci-

mens in my possession of the same genus from other parts of the world, I was surprised to find, amongst some material which had been collected in the Canary Islands by the Messrs. Crotch, examples of the *P. maritimus*, Th., which in no way differed from our British individuals of that species. As the *P. maritimus* is not included in Mr. Wollaston's 'Coleoptera Atlantidum,' I communicated the fact in a letter to that gentleman; and in return he kindly sent to me for examination such specimens of *Philhydrus* from the Madeiran, Canarian, and Cape-Verde archipelagos as were still accessible to him; and as we have found two species amongst them which are apparently undescribed, and have ascertained also that the one which he had regarded as the *melanocephalus* of Olivier is better identified with what I believe to be Küster's *politus*, found in Mediterranean latitudes, I have thought that it might not be amiss to call attention to the several species, collectively, which have hitherto been observed in those islands. I regret, however, that I have not sufficient examples before me to enable me in every case to decide positively whether certain forms should be treated as distinct species or not; and in order therefore to avoid encumbering the Atlantic Catalogue unnecessarily, I have regarded all such doubtful ones as *varieties*, and thus can distinguish with *certainty* but four species, which are as follows:—

1. *Philhydrus maritimus*, Th., Sk. Col. ii. p. 96 (1860).

The entirely pale upper surface of this species, as well as the stronger punctuation of its elytra, are characters amply sufficient to distinguish it at a glance from any of the following.

Inhabits the Canarian archipelago, a few examples of it having been found by the Messrs. Crotch in Gomera.

2. *Philhydrus politus*, Küst., Käf. Eur. 18. 9 (1849).

P. oblongo-ovalis, convexus, nitidus, niger, prothoracis elytrorumque marginibus fusco-testaceis, capite maculis duabus ante oculos, tarsis, antennis (clava excepta) palpisque rufo-testaceis, his articulo secundo basi infuscato; prothorace crebre subtiliter punctato; elytris parce subtilius punctatis, seriebus tribus punctorum majorum impressis.

Long. fere 3 lin.

Mas tarsorum unguiculis fere angulatim curvatis, basi dente valido instructis.

Fem. tarsorum unguiculis basi dente minore instructis.

Inhabits the Madeiran and Canarian archipelagos, the exact form defined above (which I have regarded as the *type*) having

been met with by Mr. Wollaston in Teneriffe and Gomera, of the Canarian group, in the latter of which islands it was found likewise by Messrs. Gray and Crotch.

Var. β paulo angustior, prothorace obsoletius punctato, palpis articulo secundo haud infuscato, tibiis piceo-rufis. Long. $2\frac{3}{4}$ lin.

Inhabits the Canaries, the single example (before me) which I have described as the "var. β ," having been taken by Mr. Wollaston in Fuerteventura.

Var. γ supra fusco-testaceus, prothoracis limbo dilutiore, capite nigro maculis duabus magnis rufo-testaceis, palpis articulo secundo basi infuscato, tibiis tarsisque fusco-testaceis. Long. fere 3 lin.

Inhabits the Canaries, having, like the "var. β ," been found by Messrs. Wollaston and Gray in Fuerteventura.

Var. δ "var. γ " similis, prothorace elytrisque magis infuscatis, palpis totis testaceis. Long. vix $2\frac{3}{4}$ lin.

Inhabits the Madeiran archipelago, having been captured by Mr. Wollaston abundantly in the island of Porto Santo, where it swarms along the edges of the half-dried brackish streams.

I hope I may prove correct in referring the type of this apparently variable species to the *P. politus*, Küst. Küster's description, however, indicates the sculpture of the elytra as much more distinct than it would appear to be in the Atlantic examples before me. But I have, at any rate, Spanish ones from Carthagenæ (the very locality from which Küster's specimens of *P. politus* were obtained) agreeing in every respect with the particular form from the Canary Isles which I have above regarded as the *type* of the species.

A specimen of the "var. δ " was many years ago identified by Dr. Aubé as *P. melanocephalus*, Oliv., from which species nevertheless it is entirely distinct. On the strength, however, of this determination, Mr. Wollaston admitted *P. melanocephalus* into his list of Atlantic Coleoptera; but in reality we have no evidence as yet of its occurrence in any of those sub-African islands. The description of *P. atlanticus*, Blanchard, in 'Voy. au Pôle sud,' Zool., tome iv. p. 51 (A. D. 1853), I am unable to refer with certainty to any species or variety at present before me; but it is said to inhabit Teneriffe.

I would also remark that it is not altogether impossible that some one (or perhaps more) of the forms which I have here treated as varieties of *P. politus* may prove eventually to be a distinct species.

3. *Philhydrus Wollastoni*, n. sp.

P. subovalis, sat convexus, nitidus, piceo-niger, prothoracis elytrorumque limbo dilutiore, capite maculis duabus parvis ante oculos, palpis antennarumque basi testaceis, pedibus piceo-rufis; capite prothoraceque crebre subtiliter, elytris parcius obsoleteque punctatis, his seriebus tribus punctorum majorum impressis.

Long. $2\frac{1}{2}$ lin.

Inhabits the Cape-Verde archipelago, having been found by Messrs. Wollaston and Gray in the islands of S. Antonio, S. Vicente, S. Iago, and Brava—in the first of which it was met with likewise by Dr. H. Dohrn.

Var. β paulo brevior et magis convexus, colore dilutiore, palpis paulo brevioribus et crassioribus.

Found in S. Antonio, this very slightly different form being the one which is distinctive of that island.

Nearly as large as the northern *P. melanocephalus*, but darker and more uniform in colour, with its elytra sparingly and much more indistinctly punctured, and with the claws of its tarsi much smaller and scarcely differing in structure in the two sexes,—in which last respect it resembles *P. ovalis*, Th., and *marginellus*, Fab., and differs decidedly from *P. politus*, Küst., and *maritimus*, Th.

4. *Philhydrus hesperidum*, n. sp.

P. oblongo-ovalis, leviter convexus, nitidus, capite nigro, maculis duabus parvis ante oculos, antennarum basi palpisque testaceis, his apice summo subinfuscato; prothorace disco piceo-nigro, marginibus testaceis; elytris fusco-testaceis, parce obsoleteque punctatis, seriebus tribus punctorum majorum impressis; pedibus piceis, tarsis dilutioribus.

Long. $1\frac{1}{2}$ –2 lin.

Inhabits the Cape-Verde archipelago, having been detected by Messrs. Wollaston and Gray in S. Antonio, S. Vicente, S. Iago, and Brava.

Closely allied in form and appearance to the European *P. marginellus*, but not quite so large as that species, and at once distinguishable from it by its very sparingly and obsoletely punctured elytra. It pretty closely resembles *P. Wollastoni*; but its smaller size and more oblong form, as well as several differences in the details of its colour and punctation, will suffice to distinguish it.